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KAS-207

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:

Confirmation No. 2280

K. NAKAMURA et al.

Issue Date: March 28, 2006

Serial No. 10/500,032

Group Art Unit: 3671

Patent No.: 7,020,553

Examiner: C.J. Novosad

Filed: June 24, 2004

For: SIGNAL PROCESSING SYSTEM FOR CONSTRUCTION MACHINE

Customer No. 24956

**REQUEST FOR CERTIFICATE OF CORRECTION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Certificate**  
**JUN 19 2006**  
**of Correction**

Sir:

The undersigned respectfully requests that a Certificate of Correction for the above-identified patent be issued. In particular, under section (75) Inventors, the fifth inventor, Yoshinori FURUNO, has been inadvertently omitted. It is requested that the fifth inventor, Yoshinori FURUNO, be added to the front page of the patent immediately following the fourth inventor as follows:

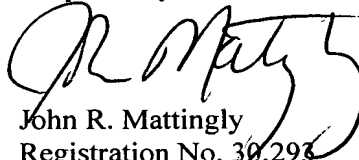
(75) Inventors: Kazunori NAKAMURA, Tsuchiura (JP); Toichi HIRATA, Ushiku (JP); Yasushi ARAI, Tsuchiura (JP); Yoichi KOWATARI, Ibaraki-ken (JP); -- **Yoshinori FURUNO, Tsuchiura (JP)**--; Gen YASUDA, Ibaraki-ken (JP); and Hiroshi WATANABE, Ushiku (JP).

For the foregoing reasons, Applicants request that the Certificate of Correction be issued.

**JUN 19 2006**

Since the Certificate of Correction is necessitated by an error on part of the U.S. Patent and Trademark Office, no fee is submitted herewith. However, should the Patent Office decide that this Request for Certificate of Correction requires a fee, the Commissioner is hereby authorized to charge Deposit Account 50-1417 (KAS-207).

Respectfully submitted,



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Date: June 15, 2006

JUN 19 2006

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## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO: 7,020,553 B2

DATED: March 28, 2006

INVENTOR(s): K. NAKAMURA et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

(75) Inventors: Kazunori NAKAMURA, Tsuchiura (JP); Toichi HIRATA, Ushiku (JP); Yasushi ARAI, Tsuchiura (JP); Yoichi KOWATARI, Ibaraki-ken (JP); -- **Yoshinori FURUNO, Tsuchiura (JP)**--; Gen YASUDA, Ibaraki-ken (JP); and Hiroshi WATANABE, Ushiku (JP).

MAILING ADDRESS OF SENDER

PATENT NO: **7,020,553 B2**

**MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.**  
**1800 DIAGONAL ROAD, SUITE 370**  
**ALEXANDRIA, VA 22314**

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(12) **United States Patent**  
**Nakamura et al.**

(10) **Patent No.:** **US 7,020,553 B2**  
(45) **Date of Patent:** **Mar. 28, 2006**

(54) **SIGNAL PROCESSING SYSTEM FOR CONSTRUCTION MACHINE**

(58) **Field of Classification Search** ..... 417/212,  
417/222.1; 60/431, 445; 172/2, 3; 37/348,  
37/382, 234; 701/50, 99-115  
See application file for complete search history.

(75) **Inventors:** **Kazunori Nakamura**, Tsuchiura (JP);  
**Toichi Hirata**, Ushiku (JP); **Yasushi**  
**Arai**, Tsuchiura (JP); **Yoichi Kowatari**,  
Ibaraki-ken (JP); **Gen Yasuda**,  
Ibaraki-ken (JP); **Hiroshi Watanabe**,  
Ushiku (JP)

(56) **References Cited**

**Yoshinori FURUNO** U.S. PATENT DOCUMENTS  
6,183,210 B1 2/2001 Nakamura ..... 417/222.1

(73) **Assignee:** **Hitachi Construction Machinery Co., Ltd.**, Tokyo (JP)

**FOREIGN PATENT DOCUMENTS**

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

JP	11-101183	4/1994
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**Primary Examiner**—Christopher J. Novosad

(74) **Attorney, Agent, or Firm**—Mattingly, Stanger, Malur & Brundidge, P.C.

(21) **Appl. No.:** **10/500,032**

(22) **PCT Filed:** **Aug. 25, 2003**

(57) **ABSTRACT**

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(2), (4) **Date:** **Jun. 24, 2004**

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**PCT Pub. Date:** **Mar. 4, 2004**

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**

**F04B 49/06** (2006.01)

**F04B 49/00** (2006.01)

**F02D 29/04** (2006.01)

(52) **U.S. Cl.** ..... 701/50; 701/103; 37/348;  
37/382; 172/3; 60/431; 417/212

A machine body controller 70A includes a modification control unit 70Ab for computing a torque modification value based on detected signals from environment sensors 75 to 83, and modifies a maximum absorption torque of a hydraulic pump controlled by a basic control unit 70Aa. An engine controller 70B includes a modification control unit 70Bb for computing an injection modification value based on detected signals from the environment sensors 75 to 83, and modifies a fuel injection state of a fuel injection device 14 controlled by a basic control unit 70Ba. The controllers 70A, 70B further include computation element altering units 171, 181. A communication controller 70C downloads alteration data obtained from an external terminal 150 to the computation element altering units 171, 181, whereby corresponding computation elements contained in the modification control units 70Ab, 70Bb are altered. As a result, it is possible in any environments to appropriately modify the maximum absorption torque of the hydraulic pump and the fuel injection state of the injection device, and to sufficiently develop the performance of a construction machine.

**9 Claims, 11 Drawing Sheets**

